

# SEARCH REQUEST FORM

Access DB# \_\_\_\_\_

Scientific and Technical Information Center

Requester's Full Name: Lisa Cook Examiner #: 77134 Date: 4/1  
 Art Unit: 1641 Phone Number: 272-0816 Serial Number: 091582711  
 Mail Box and Bldg/Room Location: \_\_\_\_\_ Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

See C + H.3

sgl < = 7

Search w/ D. Schreiber on 4/1/04  
 L/Cook

## STAFF USE ONLY

Staff Use Only	Type of Search	Vendors and cost where applicable
Searcher: _____	NA Sequence (#) _____	STN _____
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: _____	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: _____	Other _____	Other (specify) _____

Cook 09/582,711

=> d que 13

L1 5 SEA FILE=REGISTRY 'SER-CIT-HIS'/SQSP

L3 4 SEA FILE=HCAPLUS L1

=> fil reg

FILE 'REGISTRY' ENTERED AT 16:10:42 ON 01 APR 2004

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 31 MAR 2004 HIGHEST RN 669692-30-2

DICTIONARY FILE UPDATES: 31 MAR 2004 HIGHEST RN 669692-30-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

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Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d sqide l1 1-5

L1 ~~ANSWER 1 OF 5~~ REGISTRY COPYRIGHT 2004 ACS on STN

RN 204594-23-0 REGISTRY

CN L-Serine, L-seryl-L-threonylglycyl-L-histidyl-L-serylglycyl-L-seryl-L-glutaminy-L-histidyl-L-seryl-L-histidyl-L-threonyl-L-threonyl-L-threonyl-L-glutaminyglycyl-N5-(aminocarbonyl)-L-ornithyl-L-seryl-L- $\alpha$ -aspartyl-L-alanyl-L-seryl-N5-(aminocarbonyl)-L-ornithylglycyl-L-seryl-L-serylglycyl-L-seryl-N5-(aminocarbonyl)-L-ornithyl-L-seryl-L-threonyl-L-seryl-N5-(aminocarbonyl)-L-ornithyl-L- $\alpha$ -glutamyl-L-threonyl-N5-(aminocarbonyl)-L-ornithyl-L- $\alpha$ -aspartyl-L-glutaminy-L- $\alpha$ -glutamyl-L-glutaminy-L-serylglycyl-L- $\alpha$ -aspartylglycyl-L-seryl-N5-(aminocarbonyl)-L-ornithyl-L-histidyl-L-serylglycyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE

SQL 49

NTE

type	location			description
uncommon	Cit-17	-	-	
uncommon	Cit-22	-	-	
uncommon	Cit-28	-	-	
uncommon	Cit-32	-	-	
uncommon	Cit-35	-	-	
uncommon	Cit-45	-	-	

SEQ 1 STGHSGSQHS HTTTQGXSDA SXGSSGSXST SXETXDQEQS GDGSXHS GS

Cook 09/582,711

HITS AT: 44-46

MF C190 H303 N73 O91

CI MAN

SR CA

LC STN Files: CA, CAPLUS

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L1 ANSWER 2 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN

RN 204391-64-0 REGISTRY

CN L-Aspartic acid, L- $\alpha$ -glutamyl-L-seryl-L-seryl-L-arginyl-L- $\alpha$ -  
aspartylglycyl-L-seryl-N5-(aminocarbonyl)-L-ornithyl-L-histidyl-L-prolyl-L-  
arginyl-L-seryl-L-histidyl- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 6: PN: FR2773157 SEQID: 6 claimed protein

FS PROTEIN SEQUENCE; STEREOSEARCH

SQL 14

NTE

type	location	description
uncommon	Cit-8	-

PATENT ANNOTATIONS (PNTE):

Sequence |Patent

Source |Reference

=====+=====

Not Given|FR2773157

|claimed

|SEQID 6

SEQ 1 ESSRDGSXHP RSHD

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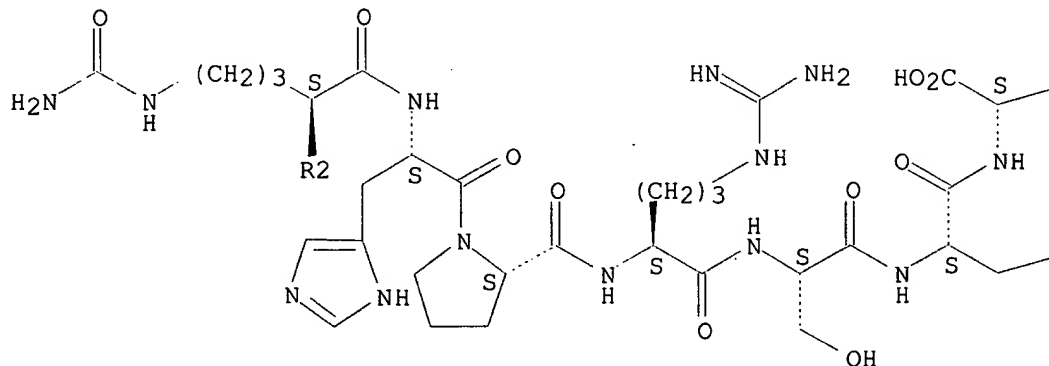
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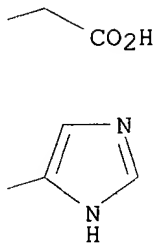
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

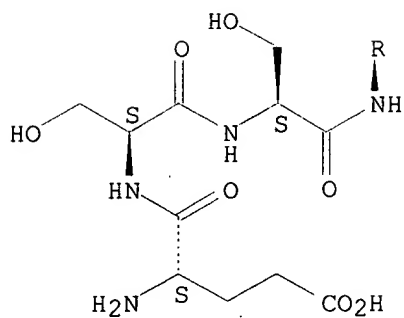
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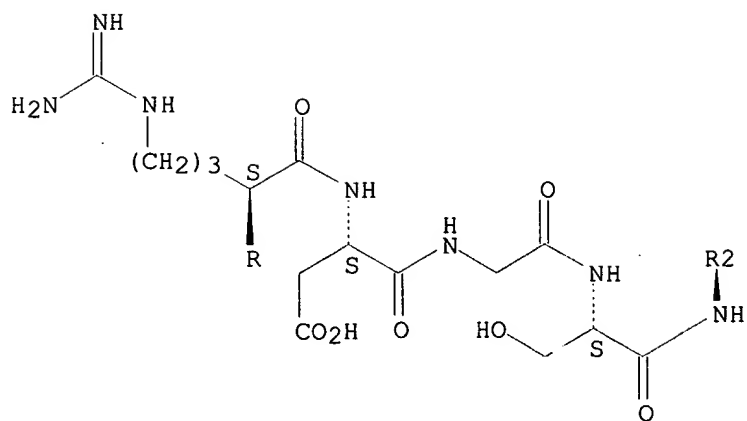
PAGE 1-B



PAGE 2-A



PAGE 3-A



3 REFERENCES IN FILE CA (1907 TO DATE)  
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L1 ANSWER 3 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN

Cook 09/582,711

RN 204391-63-9 REGISTRY

CN L-Histidine, L- $\alpha$ -glutamyl-L-glutaminyl-L-seryl-L-alanyl-L- $\alpha$ -  
aspartyl-L-seryl-L-seryl-N5-(aminocarbonyl)-L-ornithyl-L-histidyl-L-  
serylglycyl-L-serylglycyl- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 5: PN: FR2773157 SEQID: 5 claimed protein

FS PROTEIN SEQUENCE; STEREOSEARCH

SQL 14

NTE

type	-----	location	-----	description
uncommon		Cit-8	- -	

PATENT ANNOTATIONS (PNTE):

Sequence |Patent

Source |Reference

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Not Given|FR2773157

|claimed

|SEQID 5

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HITS AT: 7-9

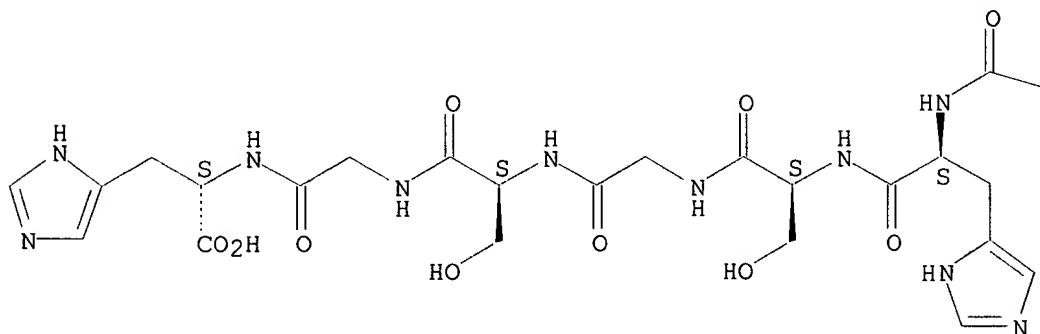
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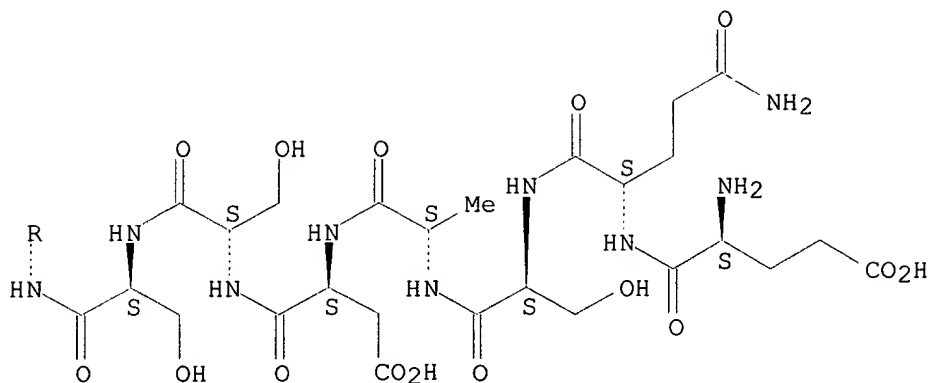
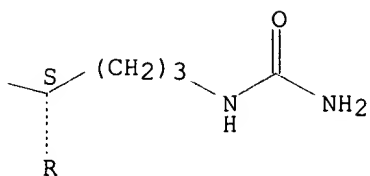
SR CA

LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A





3 REFERENCES IN FILE CA (1907 TO DATE)  
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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L1 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN
RN 202337-29-9 REGISTRY
CN L-Glutamine, L-threonylglycyl-L-prolyl-L-seryl-L-threonyl-L-arginylglycyl-
L-arginyl-L-glutaminylglycyl-L-seryl-N5-(aminocarbonyl)-L-ornithyl-L-
histidyl-L- $\alpha$ -glutamyl-L-glutaminyl-L-alanyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 17
NTE
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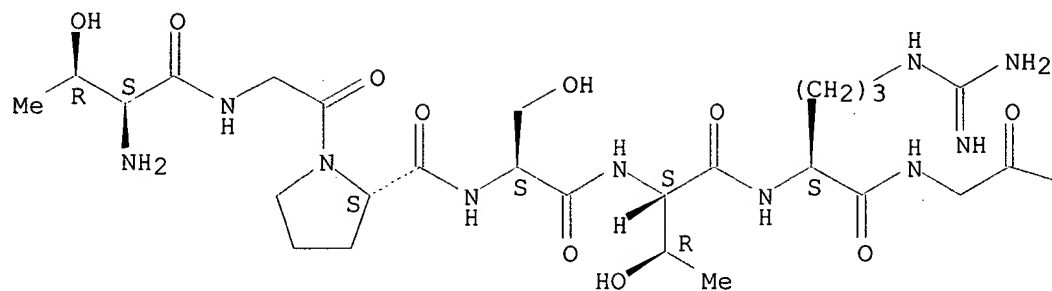
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uncommon		Cit-12	-	-

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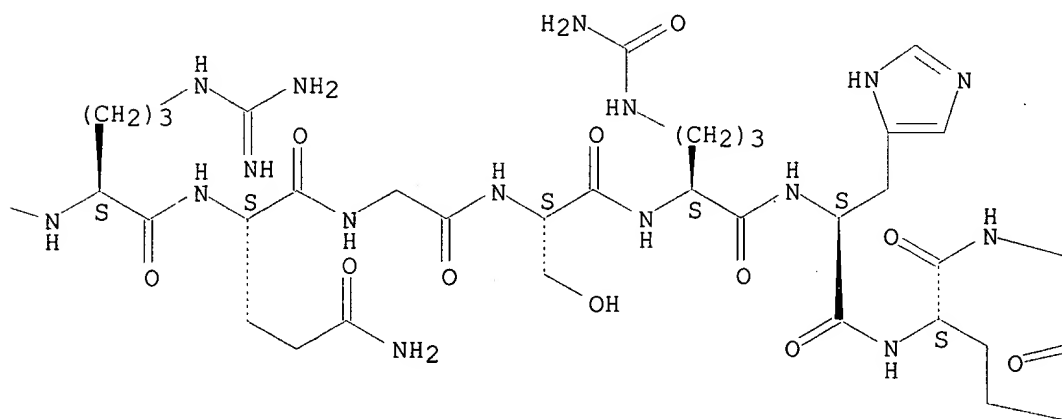
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MF C72 H120 N30 O28  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

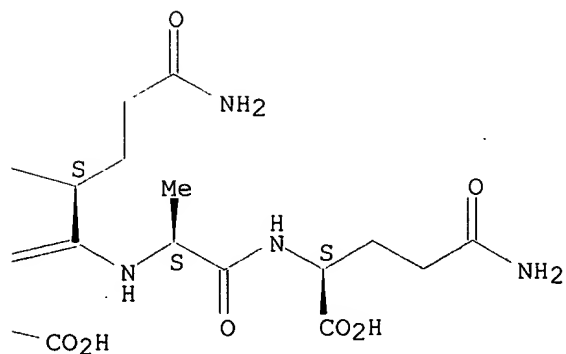
PAGE 1-A



PAGE 1-B



PAGE 1-C



1 REFERENCES IN FILE CA (1907 TO DATE)

## 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L1 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 202337-28-8 REGISTRY  
 CN L-Glutamic acid, L-threonylglycyl-L-prolyl-L-seryl-L-threonyl-L-  
 arginylglycyl-L-arginyl-L-glutaminylglycyl-L-seryl-N5-(aminocarbonyl)-L-  
 ornithyl-L-histidyl- (9CI) (CA INDEX NAME)  
 FS PROTEIN SEQUENCE; STEREOSEARCH  
 SQL 14  
 NTE

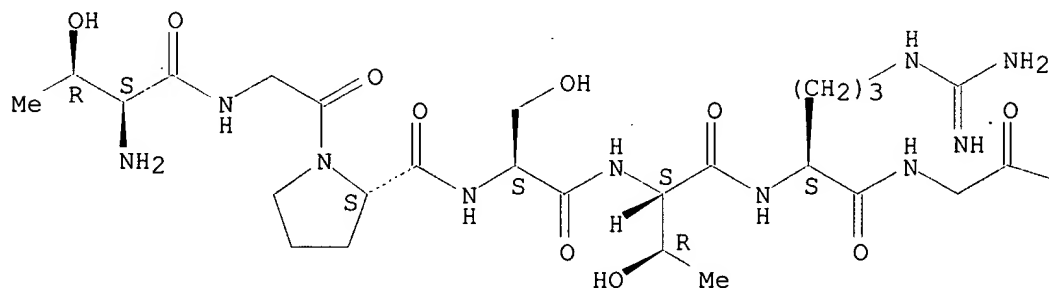
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uncommon	Cit-12	-

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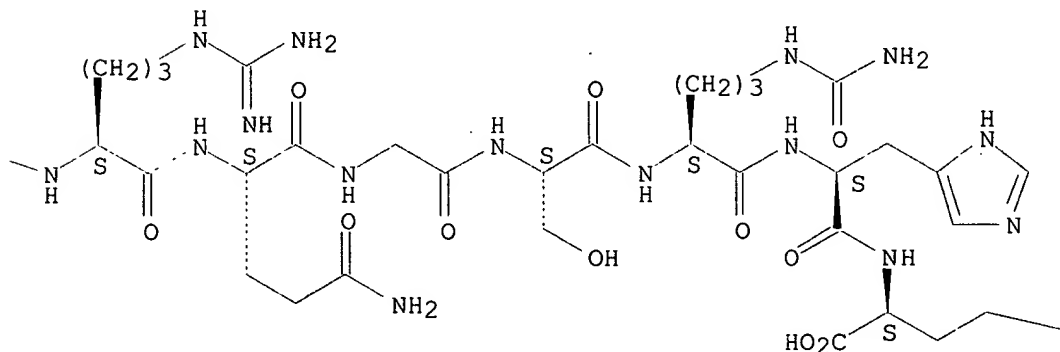
HITS AT: 11-13  
 MF C59 H99 N25 O23  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.

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PAGE 1-B





CO<sub>2</sub>H

1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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FILE 'HCAPLUS' ENTERED AT 16:11:15 ON 01 APR 2004  
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FILE COVERS 1907 - 1 Apr 2004 VOL 140 ISS 14  
FILE LAST UPDATED: 31 Mar 2004 (20040331/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d 13 ibib abs hitrn 1-4

L3 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1999:785829 HCAPLUS  
DOCUMENT NUMBER: 132:11629  
TITLE: Peptide epitopes recognized by antifilaggrin  
auto-antibodies present in serum of rheumatoid  
arthritis patients and their use in diagnosis  
INVENTOR(S): Serre, Guy Bruno Rene; Girbal Neuhauser, Elisabeth;  
Vincent, Christian; Simon, Michel; Sebbag, Mireille;  
Dalbon, Pascal; Jolivet Reynaud, Colette; Arnaud,

✓ applicant W/Cook 4/1/04

Search completed by David Schreiber 308-4292

PATENT ASSIGNEE(S): Michel; Jolivet, Michel  
 SOURCE: Bio Merieux S. A., Fr.  
 CODEN: FRXXBL  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2773157	A1	19990702	FR 1997-16673	19971230
FR 2773157	B1	20011005		
CA 2316269	AA	19990715	CA 1998-2316269	19981229
WO 9935167	A1	19990715	WO 1998-FR2899	19981229
W:	AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KG, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 9919717	A1	19990726	AU 1999-19717	19981229
EP 1042366	A1	20001011	EP 1998-964536	19981229
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			

PRIORITY APPLN. INFO.: FR 1997-16673 A 19971230  
 WO 1998-FR2899 W 19981229

AB Citrulline-containing peptides recognized by autoantibodies from the serum of patients with rheumatoid arthritis are disclosed. These peptides may be used in immunoassays for detection of these autoantibodies and for diagnosis of this disease. Thus, expts. showed that citrulline-containing peptide 71-119 of human filaggrin reacted with the autoantibodies of rheumatoid arthritis patients while the same peptide, in which the arginine residue had not been converted to citrulline by the action of peptidyl arginine deiminase, did not react. Two 14-amino acid citrulline-containing peptides which also are recognized by these autoantibodies were prepared

IT 204391-63-9 204391-64-0

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (peptide epitopes recognized by antifilaggrin auto-antibodies present in serum of rheumatoid arthritis patients and their use in diagnosis)

L3 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:33223 HCAPLUS

DOCUMENT NUMBER: 130:195491

TITLE: The epitopes targeted by the rheumatoid arthritis-associated antifilaggrin autoantibodies are posttranslationally generated on various sites of (pro)filaggrin by deimination of arginine residues  
 AUTHOR(S): Girbal-Neuhausser, Elisabeth; Durieux, Jean-Jacques; Arnaud, Michel; Dalbon, Pascal; Sebbag, Mireille; Vincent, Christian; Simon, Michel; Senshu, Tatsuo; Masson-Bessiere, Christine; Jolivet-Reynaud, Colette; Jolivet, Michel; Serre, Guy

CORPORATE SOURCE: Department of Biology and Pathology of the Cell, Institut National de la Sante et de la Recherche MedicaleT, Toulouse-Purpan School of Medicine, University Toulouse III, Toulouse, Fr.

SOURCE: Journal of Immunology (1999), 162(1), 585-594  
CODEN: JOIMA3; ISSN: 0022-1767  
PUBLISHER: American Association of Immunologists  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Antifilaggrin autoantibodies (AFA) are a population of IgG autoantibodies associated to rheumatoid arthritis (RA), which includes the so-called "antikeratin" Abs and antiperinuclear factor. AFA are the most specific serol. markers of RA. We previously showed that they recognize human epidermal filaggrin and other profilaggrin-related proteins of various epithelial tissues. Here, we report further characterization of the protein Ags and epitopes targeted by AFA. All the Ags that exhibit numerous neutral/acidic isoelec. variants were immunochem. demonstrated to be deiminated proteins. In vitro deimination of a recombinant human filaggrin by a peptidylarginine deiminase generated AFA epitopes on the protein. Moreover, two of three filaggrin-derived synthetic peptides with a citrulline in the central position were specifically and widely recognized by AFA affinity-purified from a series of RA sera. These results indicate that citrulline residues are constitutive of the AFA epitopes, but only in the context of specific amino acid sequences of filaggrin. In competition expts., the two peptides abolished the AFA reactivity of RA sera, showing that they present major AFA epitopes. These data should help in the identification of a putative deiminated AFA-inducing or cross-reactive articular autoantigen and provide new insights into the pathogenesis of RA. They could also open the way toward specific immunosuppressive and/or preventive therapy of RA.

IT 204391-63-9 204391-64-0

RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)  
(epitopes targeted by rheumatoid arthritis-associated antifilaggrin autoantibodies are posttranslationally generated on various sites of (pro)filaggrin by deimination of arginine residues)

REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:163682 HCAPLUS

DOCUMENT NUMBER: 128:229350

TITLE: Citrulline-containing antigens derived from filaggrin and their use for diagnosing rheumatoid polyarthritis  
INVENTOR(S): Serre, Guy; Girbal-Neuhauser, Elisabeth; Vincent, Christian; Simon, Michel; Sebbag, Mireille; Dalbon, Pascal; Jolivet-Reynaud, Colette; Arnaud, Michel; Jolivet, Michel

PATENT ASSIGNEE(S): Biomerieux, Fr.; Serre, Guy; Girbal-Neuhauser, Elisabeth; Vincent, Christian; Simon, Michel; Sebbag, Mireille; Dalbon, Pascal; Jolivet-Reynaud, Colette; Arnaud, Michel; Jolivet, Michel

SOURCE: PCT Int. Appl., 37 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9808946	A1	19980305	WO 1997-FR1541	19970901
W: CA, US				

RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE  
 FR 2752842 A1 19980306 FR 1996-10651 19960830  
 FR 2752842 B1 19981106  
 EP 929669 A1 19990721 EP 1997-938965 19970901

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI  
 PRIORITY APPLN. INFO.: FR 1996-10651 19960830  
 WO 1997-FR1541 19970901

AB The invention concerns an artificial antigen specifically identified by the anti-filaggrin autoantibodies present in the serum of patients suffering from rheumatoid polyarthritis, and consisting of one polypeptide comprising all or part of the sequence of one filaggrin unit or of a related mol., in which an arginine residue has been substituted by a citrulline residue. The invention also concerns the use of this antigen for diagnosing rheumatoid polyarthritis. Peptides corresponding to human filaggrin residues 71-119 as well as tetradecapeptides EQSADSSRHSGSGH and ESSRDGSRHPRSHD were synthesized and treated with peptidyl arginine deiminase to convert the arginyl residues to citrullinyl residues. These peptides reacted with sera from patients suffering from rheumatoid polyarthritis.

IT 204391-63-9P 204391-64-0P 204594-23-0P

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)

(citrulline-containing antigens derived from filaggrin and their use for diagnosing rheumatoid polyarthritis)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:31000 HCAPLUS

DOCUMENT NUMBER: 128:139653

TITLE: Citrulline is an essential constituent of antigenic determinants recognized by rheumatoid arthritis-specific autoantibodies

AUTHOR(S): Schellekens, Gerard A.; De Jong, Ben A. W.; Van Den Hoogen, Frank H. J.; Van De Putte, Leo B. A.; Van Venrooij, Walther J.

CORPORATE SOURCE: Department of Biochemistry, University of Nijmegen, Nijmegen, 6500 HB, Neth.

SOURCE: Journal of Clinical Investigation (1998), 101(1), 273-281

CODEN: JCINAO; ISSN: 0021-9738

PUBLISHER: Rockefeller University Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Only a few autoantibodies that are more or less specific for RA have been described so far. The rheumatoid factor most often tested for is not very specific for RA, while the more specific antiperinuclear factor for several reasons is not routinely used as a serol. parameter. Here the authors show that autoantibodies reactive with synthetic peptides containing the unusual amino acid citrulline, a posttranslationally modified arginine residue, are specifically present in the sera of RA patients. Using several citrulline-containing peptide variants in ELISA, antibodies could be detected in 76% of RA sera with a specificity of 96%. Sera showed a remarkable variety in the reactivity pattern towards different citrulline-containing peptides. Affinity-purified antibodies were shown to be pos. in the immunofluorescence-based antiperinuclear factor test, and in the so-called antikeratin antibody test, and were reactive towards filaggrin extracted from human epidermis. The specific nature of these antibodies and the presence of these antibodies early in disease, even

Cook 09/582,711

before other disease manifestations occur, are indicative for a possible role of citrulline-containing epitopes in the pathogenesis of RA.

IT 202337-28-8 202337-29-9

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)

(citrulline is essential constituent of antigenic determinants recognized by rheumatoid arthritis-specific autoantibodies)

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

*dates  
on  
page 6*